

## AMENDMENTS

### **Amendments to the Claims:**

Please replace the claims with the following listing of claims.

1. (Currently amended) A document automatic classification system, comprising:

list generation means for generating a word list for each of at least two categories by extracting words from a learning document set;

unnecessary word determination means for relatively determining an unnecessary word for a category on the basis of the number of occurrences of a given word within at least one other category by using the list generated by said list generation means wherein said unnecessary word determination means determines a word is an unnecessary word in response to the word having a lesser number of occurrences than a given standard in the at least one other category, the given standard comprised of a predetermined threshold scaled by the number of documents in the at least one other category; and

means for generating a document classification catalog by eliminating words determined to be unnecessary words from each of the word lists.

2. (Previously presented) The system according to Claim 1, wherein said list generation means generates a list indicating a frequency of appearance of a given word for each category.

3. (Currently amended) The system according to Claim 1, wherein the document classification catalog is comprised of a plurality of vector spaces wherein each vector space represents at least one category unnecessary word determination means extracts a word belonging to a given category and determines it to be an unnecessary word in response to the word having a greater number of occurrences in another category than is allowed by a given standard.

4. (Currently amended) The system according to Claim 3, wherein a target classification document is defined by a document vector and wherein a distance is defined between the

document vector and each of the plurality of vector spaces such that the distance indicates a degree of similarity between the target classification document and a category represented by the vector spaces the given standard is determined according to a predetermined threshold.

5. (Previously presented) The system according to Claim 1, further comprising:

classification catalog storage means for storing a list for each category from which unnecessary words were eliminated based on the determination with said unnecessary word determination means; and

document classification means for performing classification processing for classification target documents by using said document classification catalog.

6. (Currently amended) A document automatic classification system, comprising:

a classified document set storage device for storing documents classified according to at least two categories;

a category table generation unit for generating a table, the table comprising:

word lists corresponding to each of the at least two categories wherein the word lists are generated by extracting words from a learning document set; and

frequencies comprising the number of occurrences of each extracted word within the learning document set;

an unnecessary word elimination unit for eliminating an unnecessary word from a category in the table on the basis of the number of occurrences within at least one other category of a given word, wherein said unnecessary word elimination unit extracts a word belonging to a given category and eliminates the word as an unnecessary word from said table in response to the word having a lesser number of occurrences than a given standard in the at least one other category, the given standard comprised of a predetermined threshold scaled by the number of documents in the at least one other category the word appearing more frequently in another category than is allowed by a given standard; and

a classification catalog storage device for storing the table from which the unnecessary word was eliminated by said unnecessary word elimination unit.

7. (Original) The system according to Claim 6, further comprising:  
a classification target document storage device for storing classification target documents  
to be classified; and  
a document classification processing unit for performing classification processing for the  
classification target documents stored in said classification target document storage device by  
using said table stored in said classification catalog storage device.

8. (Cancelled)

9. (Previously presented) The system according to Claim 6, wherein said table contains  
information on each word, a frequency of appearance of each word, and a part of speech of each  
word.

10. (Previously presented) An unnecessary word determination method in a document  
automatic classification system, comprising the steps of:

generating a word list for each of at least two categories by extracting words from a  
learning document set, the word list containing information on a frequency of appearance of each  
extracted word within each category;

determining an unnecessary word for a category on the basis of the relative number of  
occurrences of a given word within at least one other category wherein a word is determined to  
be unnecessary in response to the word having a lesser number of occurrences than a given  
standard in the at least one other category, the given standard comprised of a predetermined  
threshold scaled by the number of documents in the at least one other category; and

eliminating words determined to be unnecessary words from each of the word lists.

11. (Currently amended) The method according to Claim 10, further comprising  
generating a document classification catalog by eliminating the words determined to be  
unnecessary words from the word listswherein, in said step of determining the unnecessary word,  
the unnecessary word is determined according to whether one word selected from the given  
category appears in said other categories more frequently than is allowed by a given standard.

12. (Currently amended) The method according to Claim 11, wherein the document classification catalog is comprised of a plurality of vector spaces wherein each vector space represents at least one category said given standard is a value obtained from a predetermined given threshold.

13. (Currently amended) The method according to Claim 12, wherein a target classification document is defined by a document vector and wherein a distance is defined between the document vector and each of the plurality of vector spaces such that the distance indicates a degree of similarity between the target classification document and a category represented by the vector spaces said given standard is determined according to said frequency of the word in said other categories and a total frequency of all words in said other categories.

14. (Currently amended) An unnecessary word determination method in a document automatic classification system, comprising the steps of:

acquiring information on words from a document set, classifying the words according to category, and storing the words in a storage device;

recognizing the number of occurrences within at least one other category of a word belonging to a given category on the basis of the acquired information;

determining whether the word is unnecessary for identifying the given category on the basis of the recognized number of occurrences frequency wherein the word is determined to be unnecessary in response to the word having a lesser number of occurrences than a given standard in the at least one other category, the given standard comprised of a predetermined threshold scaled by the number of documents in the at least one other category; and

generating a document classification catalog by eliminating words determined to be unnecessary words.

15. (Previously presented) The method according to Claim 14, further comprising storing said classification catalog into the storage device.

16. (Previously presented) The method according to Claim 15, further comprising the step of performing classification processing for classification target documents by using the classification catalog stored in said storage device.